

Amendments to the Specification:

Please amend paragraph [003] of the specification as follows:

Treatment of arthritis, to date, includes medical therapy, surgery and total joint replacement. However, all of these procedures have limitations. For example, medical therapy generally targets inflammatory arthritis through a host of chemical agents with varying degrees of effectiveness, whereas surgical synovectomy is effective treatment, but generally last only three to five years before the synovium (inflamed joint tissue) regenerates. Clinical trial data indicates that radiation synovectomy of rheumatoid arthritis is comparable to surgical synovectomy. In particular, ~~external beam~~ radiation synovectomy using e.g. yttrium-90 is effective in suppressing the inflamed synovium and relieving pain. In a published survey conducted from 1991-1993, at least 13,450 different joint injections in 8,578 patients were administered in Europe, and of these injections, Y-90 colloids were used in almost 90% of the medical centers responding to the survey. Rheumatoid arthritis was found to be the most prevalent disease in patients treated (76%), and knee and finger joints were the most frequently treated joints, 46% and 20% respectively. However, due to the lack of an appropriate delivery vehicle, confining the radioisotopes to the joint cavity was not achieved and unacceptable widespread dissemination of the radioisotope throughout the body occurred.

Please amend paragraph [042] of the specification as follows:

For each of the recited embodiments, the resorbable compositions described herein are expected to be able to encapsulate all radioisotopes (natural or man-made) at adequate levels of radioactivity for radiotherapy and/or diagnostics. For instance, a non-exhaustive list of radioactive isotopes includes Y-90, In-111, Pd-103, P-32, ~~Cs~~-131, Sm-153, Ho-166, Tc-99m, Yb-169, Au-198, Re-188, Re-186, Ir-192, Lu-177, Ba-140, Se-72, I-131, I-125, Sr-90, Dy-165, Er, Tl, Sr, and Gd. Preferred combinations include Y-90/In-111, Y-90/Tc-99m, P-32/In-111, P-32/Tc-99m, Ho-166/In-111, Ho-166/Tc-99m, Sm-153/In-111, and Sm-153/Tc-99m. Preferably these radioactive isotopes or radioisotope combinations may be delivered in an amount effective for radiation synovectomy of arthritis, such as in rheumatoid arthritis or an amount effective for radiation therapy of a tumor.

After paragraph [088], please amend Table I of the specification as follows:

Table I: Examples of the Glass Compositions

Group	Composition (mol%)	Design Principle
I	CaO = 50.0, P ₂ O ₅ = 50.0	Calcium metaphosphate, the base composition
II	CaO = 50.0, P ₂ O ₅ = 50.0 Y ₂ O ₃ = 0.5, 1, 2, 4, 8	This design studies the solubility of Y ₂ O ₃ in calcium metaphosphate glasses. Evaluation criteria includes homogeneity of yttrium in glass, crystallization, phase separation, etc.
III	CaO = 40-70, P ₂ O ₅ = 30-60 R ₂ O+RO+R ₂ O ₃ = 2-15 Y ₂ O ₃ = 0, 0.25, 0.5, 1, 2	This design matrix determined the CaO to P ₂ O ₅ ratio varied at 3 levels. Other components and their mixing effect were considered in the design matrix. Effect of Y ₂ O ₃ is also included. Note: R stands for Na, Li, K, Ba, Mg, Zn, Sr, Fe, etc.
IV	P ₂ O ₅ = 30-60 R ₂ O+RO+R ₂ O ₃ = 40-70 Others = 0-10	This glass composition group mirrors the Group III composition above. The focus was on the replacement of Ca in part or whole with other elements (e.g., Fe, Gd for imaging or diagnostics), and the replacement of Y with other radioisotopes or radioisotope combinations (e.g., Pd, Y+In). Note: R stands for Na, Li, K, Ca, Ba, Mg, Zn, Sr, Fe, Ga, Al, etc. Others include Y, Pd, Ce, Gd, Se, Au, In, Ge, Ge, Sm, Ho, Er, Dy, Re, Tl, Yb, Lu, I, Tc, etc.
V	P ₂ O ₅ + B ₂ O ₃ = 30-95 R ₂ O+RO+R ₂ O ₃ = 5-70 Others = 0-10	This glass composition group mirrors the Group IV composition above. The focus was on the replacement of P ₂ O ₅ in part or whole with B ₂ O ₃ . Refer to Group IV for R and others.
VI	P ₂ O ₅ + SiO ₂ = 30-95 R ₂ O+RO+R ₂ O ₃ = 5-70 Others = 0-10	This glass composition group mirrors the Group IV composition above. The focus was on the replacement of P ₂ O ₅ in part or whole with SiO ₂ . Refer to Group IV for R and others.

Please amend paragraph [095] of the specification as follows:

Nitriding kinetics is affected by temperature, time, ammonia partial pressure and glass composition. Typically the partial pressure of ammonia is fixed conveniently at slightly higher than 1 atmospheric atmospheric pressure to permit ammonia flow over particulates under treatment. The time for

nitriding was 6 and 18 hours for each glass composition. The primary nitriding temperature was the softening temperature, which was determined with an indentation method similar to that used for the dilatometric softening temperature. The higher the nitriding temperature, the faster the nitrogen incorporates into the glass. The nitriding temperature and containment are chosen such that undesirable outcomes such as sintering or recrystallization of the particulates are avoided. Resorption rates of microspheres before and after nitrogen doping were measured to evaluate the effectiveness of nitrogen in enhancing the surface chemical durability of the glasses. Shorter treatment time is desirable for radioisotopes with shorter half-life to minimize excessive decay of useful radioactivity during processing.